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Hog Cholera

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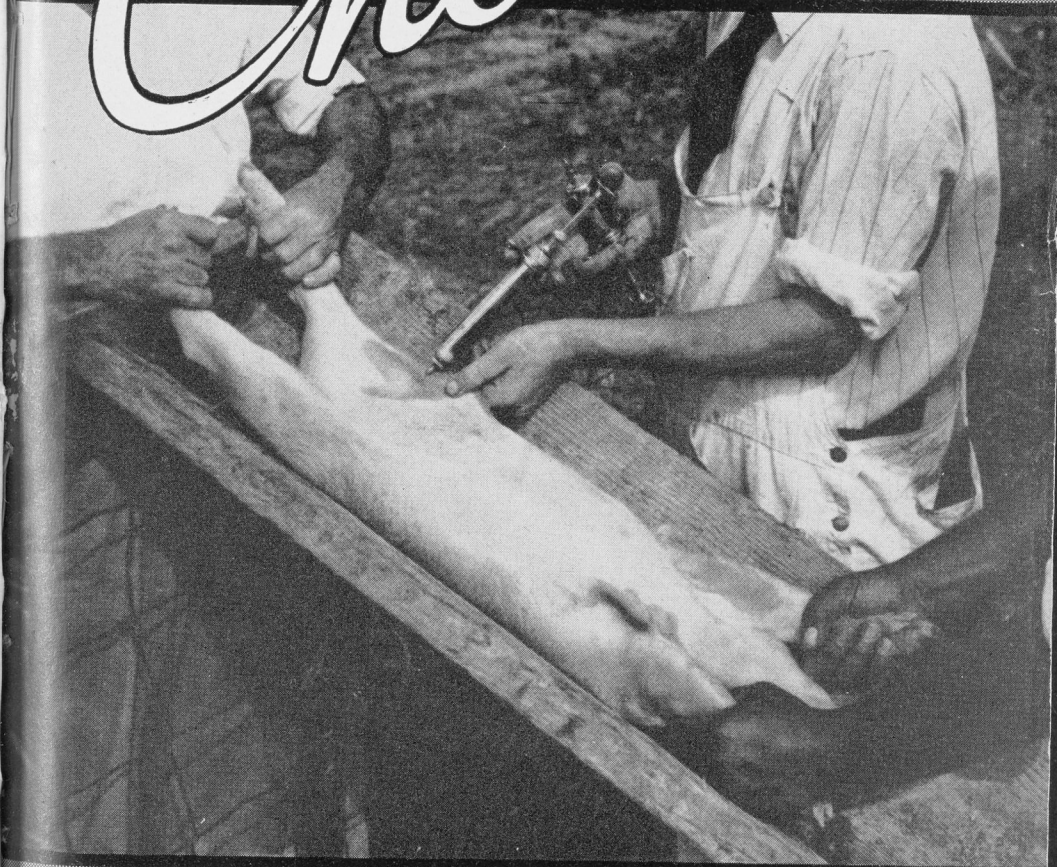
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Stouder: Hog Cholera

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Hog Cholera



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Cover Picture—Holding the pig in a V-shaped trough makes it easier work for assistants.

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Hog Cholera

BY K. W. STOUDER

HOG CHOLERA still kills more hogs than any other disease but, though it is incurable, it CAN be prevented. Cholera is highly contagious and easily spread by introducing new animals into a herd, by attendants carrying the infection on shoes or clothing, by vehicles, by roving animals and birds and by food and water contamination. The number of outbreaks reported each year usually is dependent on the density of hog population and the movement of swine in that area.

THE CAUSE OF HOG CHOLERA

The only cause of hog cholera is a virus. It is a living, growing thing, so small that it passes through most filters and is not visible under the best microscopes now used.

This virus is discharged from the bodies of afflicted animals in all of the body discharges, so the surroundings of sick pigs usually are heavily infected. This infection easily contaminates the food or water of healthy pigs and thus sets up new outbreaks of the disease. Because it is a common practice to sell all apparently normal animals when it is suspected that disease may be starting in a herd, many animals go to market while in the incubative stages of hog cholera. This means that all trucks, cars and stockyards must be considered as constantly infected with hog cholera virus. Therefore all feeder and breeding hogs passing through them must be promptly immunized or they are very likely to contract hog cholera. Feed handled in vehicles used previously to transport hogs may be a source of infection.

CHARACTERISTICS OF HOG CHOLERA VIRUS

While cholera virus outside the bodies of pigs will live for variable lengths of time in the soil, direct sunlight destroys it and it is difficult to cultivate anywhere except in the bodies of living pigs.

Hog cholera virus does not attack any animal (or bird) except the hog, but hogs of all ages and all breeds are very susceptible to

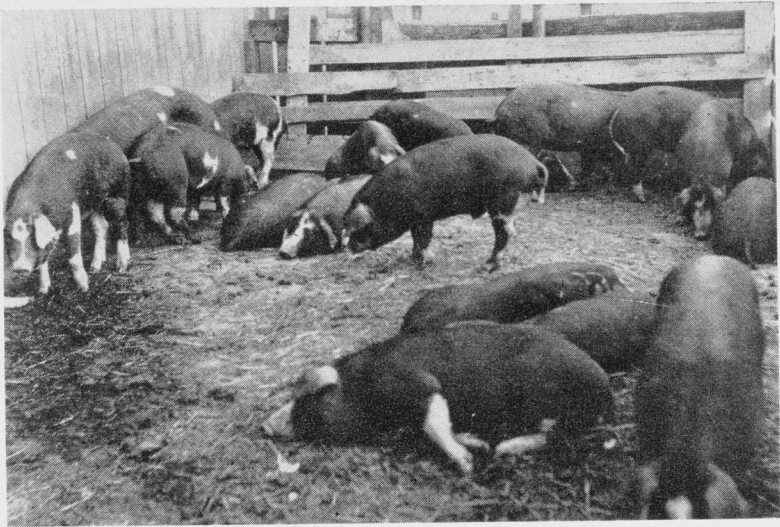


Fig. 1. Typical attitudes of hogs sick with cholera.

it. Younger pigs seem a little more susceptible than older, stronger ones.

Lack of minerals, feeding green corn or soft corn all have been charged with causing outbreaks of hog cholera. While any of these factors may lower a hog's resistance to disease or even result in sickness and are therefore bad practices, a hog never has hog cholera unless he gets hog cholera virus into his system. No method of feeding or handling will prevent practically every hog from dying if they contact the virus of hog cholera.

SYMPTOMS OF HOG CHOLERA

Because hog cholera is extremely contagious, most cases run a rapid, acute course in both the individual and in the herd. Death loss is very high, often running from 90 to 100 percent if the herd is on a premise where no cholera has been present for some time. When pigs grow up on farms where some infection is always present, the disease may run a slower course, and the death loss may not be quite so high.

In natural outbreaks the exact time of exposure is seldom known. In experimental exposure, fever usually occurs before any other evidence of disease is noticed. This usually precedes all other

symptoms by as much as 24 hours, yet it is seldom observed among hogs in the feedlot because the herdsman does not take temperatures. The fever may rise to 104° to 107° as compared to a normal of about 102° F. for a healthy pig. If the pig lives a few days the temperature may fall to normal or lower just before death.

Very soon after the fever develops there is loss of appetite. These animals also show abnormal thirst and may hide in the corners or under the litter.

If compelled to get up, they do so reluctantly. The head is drooped and the tail straight. They become progressively weaker as the disease advances.

Constipation may be present as an early symptom, followed by diarrhea.

Under experimental conditions pigs injected with a small amount of virus show illness in about 3 days, with a few holding up for as much as 5 days. Pen exposure usually requires a little longer for visible symptoms to develop. An eye inflammation with a thick, sticky secretion which may glue the eyelids shut is often seen.

The skin all along the underline may show red or purple discoloration.

Some animals may develop a cough and breathe hard, indicating a developing pneumonia which will hasten death. Few animals live more than 7-10 days after the first symptoms of illness are noticed.

A few hogs die so suddenly from hog cholera that no symptoms can be reported, and it must be kept in mind that symptoms shown by different individuals are extremely variable even in the same herd and same outbreak. Hog cholera may be difficult to diagnose, especially in the early stages, because it can be confused with other diseases which show similar symptoms.

POST-MORTEM FINDINGS

The lymph glands, normally a light grey color, usually are congested, enlarged and red on the surface. This is apparent mostly in those glands at the angle of the jaw, in the groin and in the mesentery or membrane supporting the intestine.

The lung surfaces may show small hemorrhagic spots from the size of small shot to that of a pea. The spleen usually is darker than normal, full of blood—sometimes with red lumps along the

border. Kidneys often show some dark red spots on the surface, circular in shape, from the size of a pin head to as big as a small pea. Some kidneys show but few of these spots while others are literally covered with them. These lesions have often been referred to as "turkey egg" kidneys. If opened, the urinary bladder will frequently show a similar fine blood spotting on its lining.

The intestines show red hemorrhages on the surface and on the lining. Varying degrees of ulceration of the intestinal lining may occur as a result of secondary infection.

Keep in mind, however, that some animals may die and the carcass show few changes from normal.

Other diseases of the blood stream also produce lesions so similar to those of hog cholera that they can easily be confused. An autopsy should be conducted by an experienced veterinarian familiar with the symptoms and post-mortem changes found in the various diseases of swine.

In some cases even he may be compelled to resort to laboratory tests before a definite diagnosis can be made. Herd and farm history of swine raising also is often of great help in arriving at a diagnosis.

PROTECTION AGAINST HOG CHOLERA

If all hogs could be perfectly protected against coming into contact with hog cholera virus we would never have any hog cholera. No practical means has ever been devised to accomplish this.

The other alternative then is to develop hogs that can resist the virus if they come in contact with it. Those animals are said to be immune to cholera.

Immunity is of several kinds. "Passive immunity" means a temporary protection. "Active immunity" means a very dependable protection that endures for a long time—usually for the life of the individual hog.

Animals which have suffered an attack of a contagious disease usually acquire active immunity to that disease after recovery from it.

Hogs can be made actively immune to hog cholera by vaccination with living hog cholera virus and good, potent anti-hog-cholera serum. Injections of virus repeated later and in greatly increased dose result in hyperimmune hogs.

It is the blood serum of these hyperimmune animals which we call anti-hog-cholera serum. Use of this serum in combination with fresh active virus is a safe way to make an ordinary hog immune to the disease.

The use of the serum alone can not harm the treated animal but results in only passive immunity lasting from 20 to 30 days.

Injection of serum and virus at the same time produces a very active immunity. It is called the double or simultaneous treatment.

If cholera is present in the herd when treatment is administered, the serum dosage should be increased greatly over the standard dose used for healthy hogs.

Dependable, long-lasting immunity results only by exposing the hog to the living virus of hog cholera. Heat rapidly destroys the virus; therefore virus should be kept in refrigeration during warm weather and be a bright red color. *Never* use virus that is brown or almost black. *Never* use virus that is outdated. Hogs should not be vaccinated with the serum-virus method when they are suffering from some other infectious disease.

WHEN TO VACCINATE

Healthy hogs of any age can be vaccinated successfully and made immune to hog cholera if potent serum and virus are used in correct dosage.

Pigs that nurse immune sows usually enjoy some passive immunity, transmitted to them through the milk of the sow. This passive immunity is not very dependable and rapidly disappears after weaning. Under severe exposure, pigs sucking immune sows may contract hog cholera even at an early age so may need treatment to protect them.

Some men prefer to do this just before weaning the pig. This usually is when the pig is 8-10 weeks old.

Some men prefer to do it just after weaning. Either time of vaccination seems to give about the same results. The aim in all cases is to get a pig definitely immune to cholera. Since the serum dose is largely measured by the size of pig to be treated, the smaller the pig the lower the cost, assuming that healthy pigs are being treated.

Pregnant sows may be double-vaccinated if emergency demands it. In the first half of pregnancy bad results seldom occur. In the later stages, abortion may result. Serum alone can be used safely

to protect the pregnant sow, then the double treatment applied later to both sow and pigs after farrowing.

MANAGEMENT AFTER VACCINATION

Treated pigs should be turned into a clean pasture if one is available. They should be kept clean and on a reduced ration of grain, protein or concentrated feeds of any kind for 2 or 3 weeks. Bring them back to full feed slowly. Keep the pigs away from mud holes and avoid dirty water and filth, especially for the first 24 hours after injection. This will help to avoid abscesses. Be sure they have ample shade, plenty of clean water to drink and a good chance to exercise.

Castration, ringing, ear marking or other operative procedures should not be imposed on the pigs near the time they are vaccinated. Try to keep them strong and healthy at this time, for this procedure marks a crisis in the life of the pig.

Keep these pigs isolated from all others for they may give off virus in body discharges and thus infect the non-immunes. Thirty days after vaccination, danger from this source is very slight if the treated hogs seem healthy.

HOG CHOLERA VACCINE

A system of immunizing hogs against hog cholera without using the living virus is necessary if we are ever to completely control this disease. In an effort to do this two products have been developed and are on the market. One is known as crystal violet vaccine and the other tissue vaccine.

Crystal violet vaccine is made by treating the blood of pigs in well advanced stages of hog cholera with crystal violet dye.

Tissue vaccine consists of finely ground tissues of pigs in well advanced stages of hog cholera treated with oil of eucalyptus.

In both methods the aim is to destroy the disease-producing qualities of the virus without disturbing the immunizing powers of the product. Because they have no curative powers against hog cholera they positively must not be used on hogs already infected with the disease or even on those recently exposed to hog cholera.

According to some authorities the immunity which these vaccines do produce develops rather slowly and is of relatively short duration as compared to that produced by the serum-virus method of immunization.